FIG. 9A

CTCGATCCCATTGCAATGGTATGATTAGCTATCAAACGAAAGAAAGAGATGGCATGTGCC
CTGTGTGTCATCCCTCACTGGCTTGGCGAATGGCGATACCGAGTTAGGTAGAGTGTTTTT
TTAGCATGATGTCTGCCGGCACTGCCAAGAAAACTGCGTGCAGCGGACTGCAGGAGAGTT
GAGCGATGCATGCTTTGTGATGAGCGGAGCTGAGTGGGTGTCACTAACTGAACCCAATCA
GCATTGGGTGAGTCGAGTCGAGAAGCATCATGCTTCCTGCGTCCCGATCCGCTTATCTTT
TTCTCCCAAATTATTAAAGAGGGATAGATGATGGTGTGCTGGGTTGGGTAGAGTACGTGC
ATAGAACCAAAGCGAGGCGCCGAAAATATGCCGGGGATAATGGTGGCAGGCCGCAACGGC
CACGCCCGTCAGCTGGCAGCGGCGTGCCAGAGCGTGCCAGAGCGTGCGCGCGTGCGTGCT
TCTTGCTGCCGGCCCCGGTTCGTGTGCGGTCAGAGCAACGGCTATATAGGACCGTCAATC
ACCGCTACTCAATCCGTCCCCAACTCGTTTCCTATTACCGCTACTAGTAGTATTCCTGGT
GTAGTCTAGTAGTACTCCTCCTCCTCCTTCTCCTCCTACCCGTTTCCTCATGGCCACCGT
ACGCCAGAGCGACGGAGTCGCCGCGAACGGCCTTGCCGTGGCCGCAGCCGCGAACGGCAA
GAGCAACGGCCATGGCGTGGCTGCCGCCGTGAACGGCAAGAGCAACGGCCATGGCGTGGA
TGCCGACGCGAACGGCAAGAGCAACGGCCATGGCGTGGCTGCCGACGCGAACGGCAAGAG
CAACGGCCATGCCGAGGCCACTGCGAACGGCCACGGCGAGGCCACTGCGAACGGCAAGAC
CAACGGCCACCGCGAGAGCAACGGCCATGCTGAGGCCGCCGACGCGAACGGCGAGAGCAA
CGAGCATGCCGAGGACTCCGCGGCGAACGGCGAGAGCAACGGGCATGCGGCGGCGGCGGC
AGAGGAGGAGGAGGCGGTGGAGTGGAATTTCGCGGGTGCCAAGGACGGCGTGCTGGCGGC
GACGGGGGCGAACATGAGCATCCGGGCGATACGGTACAAGATCAGCGCGAGCGTGCAGGA
GAAGGGGCCGCGGCCCGTGCTGCCGCTGGCCCACGGGGACCCGTCCGTGTTCCCGGCCTT
CCGCACGGCCGTCGAGGCCGAGGACGCCGTCGCCGCCGCGCTGCGCACCGGCCAGTTCAA
CTGCTACCCCGCCGGCGTCGGCCTCCCCGCCGCACGAAGGTAACAACAACAACAACACAA
GAACAATTTCCTTTTCGCGTGTCGTGTCGCGCGGCAATCCATGCATGCGCATGTGCCGCT
TTCACGTGTCCGTCCGTCCGTCCACCGTTCCTTCCTCCTCCCTACGCCCATGAGAAATCT
GACCTTCTCCCACCTTATACCAAACAAAACAAAAAAACACAGCGCCGTGGCAGAGCACCT
GTCGCAGGGCGTGCCGTACATGCTATCGGCCGACGACGTCTTCCTCACCGCCGGCGGGAC
CCAGGCGATCGAGGTCATAATCCCGGTGCTGGCCCAGACCGCCGGCGCCAACATTCTGCT
CCCCAGGCCAGGCTACCCAAACTACGAGGCGCGCGCCGCGTTCAACAGGCTGGAGGTCCG
GCATTTCGACCTCATCCCCGACAAGGGGTGGGAGATCGACATCGACTCGCTGGAATCCAT
CGCCGACAAGAACACCACCGCCATGGTCATCATAAACCCCAACAACCCGTGCGGCAGCGT
TTACTCCTACGACCATCTGTCCAAGGTTTCACATCCTTTGCCTTGCTGAATATGGATTCA
GTTCAGTGCACCTGCTGAATTCTTTTTGCCAATCGCATACTGACTGATGTTGCTCAATTA
GGTCGCGGAGGTGGCGAAAAGGCTCGGAATATTGGTGATTGCTGACGAGGTATACGGCAA
GCTGGTTCTGGGCAGCGCCCCGTTCATCCCAATGGGAGTGTTTGGGCACATCACCCCTGT
GCTGTCCATAGGGTCTCTGTCCAAGTCATGGATAGTGCCTGGATGGCGGCTTGGATGGGT
AGCGGTGTACGACCCCAGAAAGATCTTACAGGAAACTAAGGTACTTAAATCTCTATATCA
TTCTTTTCAAATGCTACTAAGGTGATTAATTAGTACTACTGTACAATATATTTGCTAAAT
TTGTACTGACATTTTTGTGGTAGATCTCTACATCAATTACGAATTACCTCAATGTCTCGA
CAGACCCAGCAACCTTCATTCAGGTCAGTCTTTGGTATTTACCTCGTTTCAAGAAATAAA
GTCTTTGGTATTTACTCCTCCTTGTCCTATTTTGCTCCGGTCCCTATGTTGTAGGCAGCC
CACGTGCATGTCAAGTGACCGTTTTTTCACATTAAGTTTGAAAGTCAAAGTCAGACACAT
ACACTTGTAGTTATTTTACCTTTGTTTGCTTTGATCCGATAAAATAAAAAAATACAAAAA
CTGAACCTACTGTTGAATATAACCACTGTTCTTACAAGATATACATGATTGCACTATGGG
CATGCCATATTCTTTTGGGTCAAGTATGCAGTATGTTGGAACCTCTTTTAGAAAATAGAT
ACATTGTACTATGAGTATACCATTTTATTAAGAATTTCATATTTTGATATCCTTGATGGT
ATTGTTCTCTTGTGATTCACACGATTTACTTGTGGTTTTTTGTACTATCAAATTGTTCAG
GCAGCTCTTCCTCAGATTCTTGAGAACACAAAGGAAGATTTCTTTAAGGCGATTATTGGT
CTGCTAAAGGAATCATCAGAGATATGCTACAAACAAATAAAGGAAAACAAATACATTACA
TGTCCTCACAAGCCAGAAGGATCAATGTTTGTCATGGTAAGCCTATTTTGTGAAGTAAAA
AAATCTTAGGGAGTGTCAGTAATCATAAACTTATTTATATAGGATTAATCTGGGACCGAA

FIG. 9B

```
ATGCATCCAACATAATTACTTCAAATTCAAATTCAAATTACATTCTTCCGTACATATTTT
TGAAGATGCATGTATTTTAAGAATAATGACGAGAGCTAAAGTTATGCTACGACTAATCAT
CTGGATATCCTTTGTCCATCTTTTTGTTATACTGTGGAATGTTAATGGTCAAATCATATT
ACACAAATATCCATGCTAGTTTCTAGAAAGATTGATTATTTTTCTGTAACCATGAACTCC
GTATTAACTTCCATGTAAACAGGTGAAACTGAACTTACATCTTTTGGAGGAAATAGACGA
TGACATTGATTTTTGCTGCAAGCTCGCAAAAGAAGAATCAGTAATCTTATGCCCAGGTAG
GAATCCATTGTTGATTTTTGACTGTATATGAAGTTCTTATCAATTTCCGAGATGACTATA
CATATAAATGATTACCATATTATGGTCAGAAATTGTATAACAGTGTTAGAATATTCTGTG
AAGACTTTTTTAACACAATATTCTGTGAAGACTAGATATCATGTACTTCTCCTTGTTTTC
TTGACCTGATGTCCTTCGTCACATGTTGTGCTCCTCACAAAAAAATAGCAAGCACATGTT
TCAAATAATTGTTAATAATATAATTTAGCCTTTAATTTATATGGTTCTATTTTGAGATAT
TTTTGTAGTCCAACTTATATATTTGTGACTATTCTCAAAAACAAAACTTATATATGTGTG
CCTCTCAAATGTAGGGAGTGTTCTTGGAATGGCAAACTGGGTCCGCATTACTTTTGCTTG
TGTTCCATCTTCTCTTCAAGATGGTCTCGGAAGGATCAAATCATTCTGTCAAAGGAACAA
GAAGAGAAATTCGAGCGATGATTGCTAGTTGTATATCTGACTGAAGCTGTAAATCATTCC
CAGTATCCCCATCTATATCTTTCAATAAAATGGAACTTTTAGTTCTCTATGAATAGAAGT
CAACATCTCCTTGAATATGTTCTGGTTGTTGTGGCCTGGACGAAACATAGTGAATGTTAT
GTTAGTGAAGTTACATTGGCGTCGAAGATCTTTGAAGTTTTTTTTTTTTTTGGGGGGGG
GGGGGGGGGGGTGCTTTGATATTACTCTTAAGTACACGTTCTCTCAAGTTATGTCAAAGCA
CTTTGTAAACAATTGTAGATTTGGTATCATGATATGGATTAAACTAGTCAGATACTTGGT
AAGCACAAACCCTACCTATGTTAGGCTCACTAAGGTGGCGTTTGGTTCGAGAGAGAGGAA
GGATCAGTTGATGATATCCCCAATCATCGAAGTAAATCATGTGTTGTTGCTACCACTTTT
CTACAATCCTAGTAGCTGCATGCGTTGAGCTACTGATCAACACCACTGCACAACCATATT
CTCTGTGCAAAATCGGCACCCAAAGATTACATCTCACAGCTGAAGCAACCACCAAATTTG
AAGAGAGGAACCCTCACAAAGACCTTTGAGTGCCCCCCACAATGCATGGTTAGGCCGCCG
TCGCAGGCCGGAGTGGTCACCATGCGGACCAACACCAACTCCAACGGGGGAGCACGTCAC
CGATTACTGAAATTCCCCAAACAATTCTTAATTTGTGAACAAAATTTAAAAACAGGAACA
ATTTTTGAATTTGTGAACAAATTTTTTAAACGGGTATTCCTGAACATTTTTCAAAATTGT
GATCAAAATTTTAAAACGACTTCTTTCTCAAATTTGAGCAATATTTAAAATTATAAAAAA
GTTCAACAATTTTGAACTTTTTAAAAATTAGCGAGAACATTTTGAAATTCTAAATATTTT
CGAATTTGGAACATTTTTTCTATTTCTGAACAAAAATTGAAAATACGAACGTAATTTGGA
ATAAATTTTGGAAAATGCGATTTTTTGAAATTTCTGAACATATTTTGAAAAACAAAAAAA
CTTTAAAAGGTAAAATAAAAATAAAATAAAAATAGAAACATAAAAATAAGCAAAAAAATA
AAAGAAATCCGAGAAAAGCCAACTGGGAATAGCACATGGAAAAACCCAGCCGTCCGCCGC
ACTGTGTAAAGCTATAAGTGAGCCGGCCCAAGCCTCGTCGTCTCATCATACCCTGTGCGA
AACCCCGACAATTCGTTGCACTATGCGGCGAATAGGCTTTTCCAGGAGCTCCTGTCTTCC
GGTTATGGGTCATTTGCACACCCCTCCTCCACTTGGGCCAGGCTATTATACTTTTTTTCC
TTCTTTCGACCTCACGTTACTACGCCAGTTAGTTTTTGGAAGCGACCAACCGGTTTTGT
GAAGGTTCTAGAAACTCAACCATTTTTGGGAAGCTTCTAGAAGCCTATGAATGTTTCTTT
TGGACATGTATTATTTGTGTTTTTTCTTTTTCAAATTGCACAATCTTTTTTCAAATTCAT
GATTTTTGTGAAACTTGTGATTTTTTGAATCCGTGATTTTTTTTCCTAAATCCGTGTTTT
GAAAAAAACTGTGGACTTTTCCGAAATTAATGAACATTTGTTTGCAAGATCGATGATCCT
TTTCAAATGAGCGATTTTTTTCTAAAATATCCACATATTTTTCATATTCATAAGCTTTCC
TTTTAATCGTGAACTATCTTAGCATTTGGTGAACTTTTATTAATTTTCTTTATAAAATGA
TTTTTTTTCAAAAGCCAACGGTTAACGGTTGACCGCTGAACCACAACCACAAACCGGGGA
AACCATTGACTCGCTGAACAGGGCAGGGCTTTCATATGATTGGGTGGTCTAATACCAGCG
CCCCTGACTACTAAACGAAGGAATTGCAAATTTTACCAACCACTACTATGGTAAAAAATG
AATATCACGATAAAAAAGGGGAAAAAAAACTATACCCTGAAAATCCCTCTGTTTCTAAAT
ATTTGTTGTTGGGGAGAACTAATCTGAAAGAACTAATCTAGTTCTCCGCAATAACAAATA
TTATGATTCGGGGGGAGTATAACTATTACACGATCAACCAAAGAATGTCCTCCAAGAAAA
ACCCAAAGAAAGTGCTAGAGTTTTGTTTTCAAGGACCGAAAGATAGAGATAGCATTCTGA
ATTACCTCCATCTTTTTTCCCAAGGATTGAAAGAAAGAGATAGAATTCTGAATTAGGTGCG
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FIG. 9C

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GAGATATCATTTCTGGATTAGGTACAATTGTTTTGCCGGCACAGCCAAACCCCGCAGTGG
AGCCGGAATTGGAATTGAGTGGGTGGAGTCGAGAAGCATGGTTCATGCGTTCTCAAAGAG
TGTAGCCAGTAGTGTGTGCTCCTTGGTGCTGGAGCTGCATATACAAGTACATAAAACAAA
GACGATCAGCTGGCAGCGTGCCTGCATGCGTGCTTCTTGCTGCCGCCCCGGAAGCCCCGG
TTGATGTGCGCAGGCGAGTGGCGACGGGACCGACGGCTATAAAGCACGGCCAAGCACCGC
CGCCGTTCTCAATCCATCCATCCCTTAGCTGATTTGATTGACTAGCTAGTTCATTCCCTG
CCACACTGCTAGTACTCCTCCTCGTTTCCTCGTGGCAATGGTACACCAGAGCAACGGCCA
CGGCGAGGCCGCCGCCGCCGCCAACGGCAAGAGCAACGGGCACGCCGCCGCCGCGAA
CGGCAAGAGCAACGGGCACGCGGCGGCGGCGGTGGAGTGGAATTTCGCCCGGGGCAA
GGACGGCATCCTGGCGACGACGGGGGCGAAGAACAGCATCCGGGCGATACGGTACAAGAT
CAGCGCGAGCGTGGAGGAGAGCGGGCCGCGGCCCGTGCTGCCGCTGGCCCACGGTGACCC
GTCCGTGTTCCCGGCCTTCCGCACGGCCGTCGAGGCCGAGGACGCCGTCGCCGCCGCGCT
GCGCACCGGCCAGTTCAACTGCTACGCCGCCGGCGTCGGCCTCCCCGCCGCACGAAGGTA
ACATTTACAGCTTCACCGTAATGTATGCGTGAGCATGCATGCGCCGGTTTACTTACGTGC
CCGCCGCTGTTCTTCCCCGGTGCGTTCAAAATTTTAACCTTCTATAAGTACCTTATAAAA
ACAAACAGCGCCGTAGCAGAGCACTTGTCACAGGGCGTGCCCTACAAGCTATCGGCCGAC
GACGTCTTCCTCACCGCCGGCGGAACTCAGGCGATCGAAGTCATAATCCCGGTGCTGGCC
CAGACTGCCGGCGCCAACATACTGCTTCCCCGGCCAGGCTATCCAAATTACGAGGCGCGA
GCGGCATTCAACAAGCTGGAGGTCCGGCACTTCGACCTCATCCCCGACAAGGGGTGGGAG
ATCGACATCGACTCGCTGGAATCCATCGCCGACAAGAACACCACCGCGATGGTCATCATA
AACCCAAACAATCCGTGCGGCAGCGTTTACTCCTACGACCATCTGGCCAAGGTTTTGCAT
CCATGCATCCTCTGCCTCGTTGATCGACCGGTCTGTTTGAACATAGTATATGGATTGCGT
TTGCTAATCGTGTGCTGATGATGCTGTTTGGTTATCAGGTCGCGGAGGTGGCAAGGAAGC
TCGGAATATTGGTGATCGCTGACGAGGTTTACGGCAAACTGGTTCTGGGCAGCGCCCCGT
TTATCCCGATGGGCGTCTTTGGGCACATTGCCCCGGTCTTGTCCATTGGATCTCTGTCCA
AGTCGTGGATAGTGCCTGGATGGCGACTTGGATGGGTGGCGGTGTACGACCCCACAAAGA
TTTTAGAGAAAACTAAGGTAGCTTTAGCTCCCTATCATTCTTCTCATATGCTACTGTGGG
GATTAGTATTTTTGCTAAATTTGTACTGCCTTTGTTTATTCAGATCTCTACGTCTATTAC
GAATTACCTTAATGTCTCAACGGACCCAGCAACCTTCGTTCAGGTTAGTCTTTGGTTCTT
GCCCTATTTTGCTCATGTCCCTGTGTTGCATGTCAAATGACCGGCTTCAAGTTAGTATAT
AGAGTTTTTGTTAAGTGTGAATGTCGAAGTCCAACATGATGGAAGAAAGATACATCTATT
TTTAGTCATTCCCCTTTGTTTGTTTGATTCCATAAAATAAATAAACACAAAGCCAGAACC
AACTATTGAATAGAACTATTTTTCTTAGAAAATATACATTGTATTTTGAGCATGCCATAT
TCTTTTCGATCAAGTATGCAATATATTAAAACTTGCATTGTACTACGAGTATACCATGTT
GTTAAGAATTTCTTTACCTACAACACCTTGTCTCGCATCTTCATATTTTGATATCCTTGA
CATTATTGTTCTCTTATGATTCACACAACTTAATTATGGATTTTTGTGCTATCAAATTGT
TTAGGAAGCTCTTCCTAAAATTCTTGAGAACACAAAAGCAGATTTCTTTAAGAGGATTAT
TGGTCTACTAAAGGAATCATCAGAGATATGTTATAGGGAAATAAAGGAAAACAAATATAT
TACGTGTCCTCACAAGCCAGAAGGATCGATGTTTGTAATGGTAAGCTAAGCATAGACTTA
CTTTTTAAGGTTAATCTGGGATCTCAGTGCATCCAACAAACAATCAAATCAAAATATAAT
TATGTTTTGCTATGGATCTTTTTGAAGATGCATGCATTTGAAGAATAATGAAGAGAGTTG
AAATTATTTTAGGACTAATCTTCCTGATATCATTTGTCCATTTTTTTGTTATTACTGTAA
ATTGGTAACACTCAAATCATATTACAAAAAGTTTCCTCCCATTTTTAGTAAGATTGACTT
CCTTTCTATAACCATGTATTAACTTCCATGTAAACAGGTCAAACTAAACTTACATCTTTT
GGAGGAGATCCATGACGACATAAATTTTTGCTGCAAGCTCGCAAAGGAAGAATCTGTAAT
TTTATGTCCAGGTAGGAATGTATATGGCCATTTTAAAGGAAAACTATATGGAATAATAAT
ATCTTCTTGTTATACTAAACAATACTTCCTCCATCCTAAAATAAATGTCTTACACTTAGC
ACAATTTTATACTAGATCTAGTACAAAGTTGAAACAGTTATTTTGGGACAGAGGGAGTAG
TATATATTGTGTGAGAACATAAGGTTATGTTTGACTGATATATGCTTCTTAAATGTGAAA
CATGTTCTCTTATGTTTTTTTGATTGTATACGAAGTTCTTATCAGTTTCCGAGATGACTAC
ACATAAATGATTACCATATCATTGTCAGAAAATGTATTACCACATTAGAATATTCTTTCT
TTTTATCGAAACACTACCATCCCATGTACTTTTCCTTGTACCTATGTGTCTTTTTTTTC
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FIG. 9D

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TCGTTACATGTTTGTGCTTCTCACAAAAATAATAATACCAAGCACATGTTCCAAATGATT
ATTAATAATTTTGAGGTGTTTTTCAACCAACTTATATACTTTCATAGTTCTAAAAAAACC
GTATATATGGTTAACTCTAACAAAAACTTATATATGTTTTCTCTCTAATACAGGGAGTGT
TCTTGGAATGGAAAATTGGGTCCGTATTACTTTTGCCTGCGTTCCATCTTCTCTTCAAGA
TGGACTCGAAAGGGTCAAATCATTCTGTCAAAGGAACAAGAAGAAGAATTCTATAAATGG
TTGTTAGTTGTACACACCCCTAGTTGTACATCTGACTGAAGCTGTAAATCATTTCTAGTT
ATCCCCATTTATATATTTCAATAAAACATATTGTAATGGTTCTGTTGTAGCTGTCCAAGT
CATGTACTCTACTTTTTGATGTATTTGGCCTCATTGCCTTGCATCAGTTTCAATAAAAAT
GGTTGTGTACACAATGATGATGTAGAGGCGAGGTGTTTTGACCACCTTTTCAACAAAAAT
CTATATCTTTCAACAAATGAAACCTTGAGTTCCCTTTGAGTAGAAGTCAACATACTCCTT
GAATATGCTATGGTTTCCATGGTCTGGATGAAACATGATGAATAGAAGTGAAGTTATATC
CATGTCAAAGTTTTTTAATGTTTAATTTCATTATGAGAACTTTGATATTACTTCTAGCAC
ACATTCTCTGAAGTAATTGTCAGTTTGGTACTTGAAGGGACCTATATTTTTCCTATTGGG
GGGGGGGGGTGAATAGGCGGTTTATAACCAATTGTATATTTGAGAATATCTTAATGTGGA
ATTAAACTAGGTGAATATTTTTTCCAATAAAGGGTGCTTTTATTGACTCACAATGTACCA
TCAAGGGATACAATCATAATGAGTACACAATCGACATCTACATAATCAGGTTGCATACGG
CCAACACACACACACGCACACACACATTCACACACACAAATCATGCTGACGAAGAGCGAA
GTCATACAAGATCAAAACTATGCCTAGGCGGAGGAAGAATAGAAAAACATGAAGAAATGA
AAAACCGTGACTGACAACATACTGACCATCGACGACAAACATCTGTAGACAACACAAAA
CTGCGAGAAAGTTCTATAAAACTGGCGCCTTCGAGAAGGAAACGACGTGCAAGAGTTGC
CATCATCGGATCCAACCACTAAGGTCATATCCTGGGTTTTCATCCTGAAGATCAAATCCG
AGCAAACTCCGAGTAATGTCTTTATTAGGGTAACGATTCAAAAAATGCCACAATCATGAG
TTATGACCAATTAGACCAGACCTAGGATTTTTATCCAAAGCTCGAGACGGGTACTCTAGA
AGTACCATCCAATTGAAGTCATCCCACTTGCCTCAATACAAATAGTTGCATAGATGCACG
GTCCATATGGCGAGTAATGGACATGAGCGCGCATGTGTAGGTTAACGTGACGTGACAAGA
GCCTGTCGCCACCACTCGACGAAGTGTTTGATGGGGAGGAAGAAGTATGGCTCCACCAAC
ATCCCAAGTTTGAAACATTCTAGAGCCCCTTACCATACTCACAAAGCGACAATTGATGAC
TATCTGTATCAGACGACAAATCCATGTCCGTCACTCGCTCTATCTTGGTCATTGACATAC
TACCTGGCAAAGGCGGATTCAAGCCCCAGACAGCCTGGGCGGCCGC
```
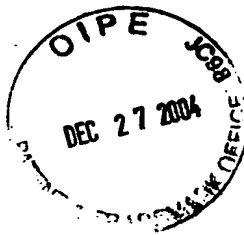
FIG. 10A

ctcgatcccattgcaatggtatgattagctatcaaacgaaagaaagagatggcatgtgcc
ctgtgtgtcatccctcactggcttggcgaatggcgataccgagttaggtagagtgttttt
ttagcatgatgtctgccggcactgccaagaaaactgcgtgcagcggactgcaggagagtt
gagcgatgcatgctttgtgatgagcggagctgagtgggtgtcactaactgaacccaatca
gcattgggtgagtcgagtcgagaagcatcatgcttcctgcgtcccgatccgcttatcttt
ttctcccaaattattaaagagggatagatgatggtgtgctgggttgggtagagtacgtgc
atagaaccaaagcgaggcgccgaaaatatgccggggataatggtggcaggccgcaacggc
cacgcccgtcagctggcagcggcgtgccagagcgtgccagagcgtgcgcgcgtgcgtgct
tcttgctgccggccccggttcgtgtgcggtcagagcaacggctatataggaccgtcaatc
accgctactcaatccgtccccaactcgtttcctattacCGCTACTAGTAGTATTCCTGGT 600

GTAGTCTAGTAGTACTCCTCCTCCTCCTTCTCCTCCTACCCGTTTCCTCATGGCCACCGT
                                                    M   A   T   V   NAAT-B

ACGCCAGAGCGACGGAGTCGCCGCGAACGGCCTTGCCGTGGCCGCAGCCGCGAACGGCAA
 R   Q   S   D   G   V   A   A   N   G   L   A   V   A   A   A   A   N   G   K

GAGCAACGGCCATGGCGTGGCTGCCGCCGTGAACGGCAAGAGCAACGGCCATGGCGTGGA
 S   N   G   H   G   V   A   A   A   V   N   G   K   S   N   G   H   G   V   D

TGCCGACGCGAACGGCAAGAGCAACGGCCATGGCGTGGCTGCCGACGCGAACGGCAAGAG
 A   D   A   N   G   K   S   N   G   H   G   V   A   A   D   A   N   G   K   S

CAACGGCCATGCCGAGGCCACTGCGAACGGCCACGGCGAGGCCACTGCGAACGGCAAGAC
 N   G   H   A   E   A   T   A   N   G   H   G   E   A   T   A   N   G   K   T

CAACGGCCACCGCGAGAGCAACGGCCATGCTGAGGCCGCCGACGCGAACGGCGAGAGCAA
 N   G   H   R   E   S   N   G   H   A   E   A   A   D   A   N   G   E   S   N

CGAGCATGCCGAGGACTCCGCGGCGAACGGCGAGAGCAACGGGCATGCGGCGGCGGCGGC
 E   H   A   E   D   S   A   A   N   G   E   S   N   G   H   A   A   A   A   A

AGAGGAGGAGGAGGCGGTGGAGTGGAATTTCGCGGGTGCCAAGGACGGCGTGCTGGCGGC
 E   E   E   E   A   V   E   W   N   F   A   G   A   K   D   G   V   L   A   A

GACGGGGGCGAACATGAGCATCCGGGCGATACGGTACAAGATCAGCGCGAGCGTGCAGGA
 T   G   A   N   M   S   I   R   A   I   R   Y   K   I   S   A   S   V   Q   E

GAAGGGGCCGCGGCCCGTGCTGCCGCTGGCCCACGGGGACCCGTCCGTGTTCCCGGCCTT 1200
 K   G   P   R   P   V   L   P   L   A   H   G   D   P   S   V   F   P   A   F

CCGCACGGCCGTCGAGGCCGAGGACGCCGTCGCCGCCGCGCTGCGCACCGGCCAGTTCAA
 R   T   A   V   E   A   E   D   A   V   A   A   A   L   R   T   G   Q   F   N

CTGCTACCCCGCCGGCGTCGGCCTCCCCGCCGCACGAAGgtaacaacaacaacaacacaa
 C   Y   P   A   G   V   G   L   P   A   A   R   S

gaacaatttccttttcgcgtgtcgtgtcgcgcggcaatccatgcatgcgcatgtgccgct
ttcacgtgtccgtccgtccgtccaccgttccttcctcctccctacgcccatgagaaatct

FIG. 10B

```
gaccttctcccaccttataccaaacaaaacaaaaaaacacagCGCCGTGGCAGAGCACCT
                                            A  V  A  E  H  L


GTCGCAGGGCGTGCCGTACATGCTATCGGCCGACGACGTCTTCCTCACCGCCGGCGGGAC
  S  Q  G  V  P  Y  M  L  S  A  D  D  V  F  L  T  A  G  G  T


CCAGGCGATCGAGGTCATAATCCCGGTGCTGGCCCAGACCGCCGGCGCCAACATTCTGCT
  Q  A  I  E  V  I  I  P  V  L  A  Q  T  A  G  A  N  I  L  L


CCCCAGGCCAGGCTACCCAAACTACGAGGCGCGCGCCGCGTTCAACAGGCTGGAGGTCCG
  P  R  P  G  Y  P  N  Y  E  A  R  A  A  F  N  R  L  E  V  R


GCATTTCGACCTCATCCCCGACAAGGGGTGGGAGATCGACATCGACTCGCTGGAATCCAT
  H  F  D  L  I  P  D  K  G  W  E  I  D  I  D  S  L  E  S  I


CGCCGACAAGAACACCACCGCCATGGTCATCATAAACCCCAACAACCCGTGCGGCAGCGT  1800
  A  D  K  N  T  T  A  M  V  I  I  N  P  N  N  P  C  G  S  V


TTACTCCTACGACCATCTGTCCAAGgtttcacatcctttgccttgctgaatatggattca
  Y  S  Y  D  H  L  S  K


gttcagtgcacctgctgaattctttttgccaatcgcatactgactgatgttgctcaatta
gGTCGCGGAGGTGGCGAAAAGGCTCGGAATATTGGTGATTGCTGACGAGGTATACGGCAA
  V  A  E  V  A  K  R  L  G  I  L  V  I  A  D  E  V  Y  G  K


GCTGGTTCTGGGCAGCGCCCCGTTCATCCCAATGGGAGTGTTTGGGCACATCACCCCTGT
  L  V  L  G  S  A  P  F  I  P  M  G  V  F  G  H  I  T  P  V


GCTGTCCATAGGGTCTCTGTCCAAGTCATGGATAGTGCCTGGATGGCGGCTTGGATGGGT
  L  S  I  G  S  L  S  K  S  W  I  V  P  G  W  R  L  G  W  V


AGCGGTGTACGACCCCAGAAAGATCTTACAGGAAACTAAGgtacttaaatctctatatca
  A  V  Y  D  P  R  K  I  L  Q  E  T  K


ttctttcaaatgctactaaggtgattaattagtactactgtacaatatatttgctaaat
ttgtactgacattttgtggtagATCTCTACATCAATTACGAATTACCTCAATGTCTCGA
                        I  S  T  S  I  T  N  Y  L  N  V  S


CAGACCCAGCAACCTTCATTCAGgtcagtctttggtatttacctcgtttcaagaaataaa
T  D  P  A  T  F  I  Q


gtctttggtatttactcctccttgtcctattttgctccggtccctatgttgtaggcagcc  2400
cacgtgcatgtcaagtgaccgttttttcacattaagtttgaaagtcaaagtcagacacat
acacttgtagttattttacctttgtttgctttgatccgataaaataaaaaaatacaaaaa
ctgaacctactgttgaatataaccactgttcttacaagatatacatgattgcactatggg
catgccatattcttttgggtcaagtatgcagtatgttggaacctcttttagaaaatagat
acattgtactatgagtataccattttattaagaatttcatattttgatatccttgatggt
attgttctcttgtgattcacacgatttacttgtggttttttgtactatcaaattgttcag
GCAGCTCTTCCTCAGATTCTTGAGAACACAAAGGAAGATTTCTTTAAGGCGATTATTGGT
  A  A  L  P  Q  I  L  E  N  T  K  E  D  F  F  K  A  I  I  G
```

FIG. 10C

```
CTGCTAAAGGAATCATCAGAGATATGCTACAAACAAATAAAGGAAAACAAATACATTACA
 L   L   K   E   S   S   E   I   C   Y   K   Q   I   K   E   N   K   Y   I   T

TGTCCTCACAAGCCAGAAGGATCAATGTTTGTCATGgtaagcctattttgtgaagtaaaa
 C   P   H   K   P   E   G   S   M   F   V   M

aaatcttagggagtgtcagtaatcataaacttatttatataggattaatctgggaccgaa      3000
atgcatccaacataattacttcaaattcaaattcaaattacattcttccgtacatatttt
tgaagatgcatgtattttaagaataatgacgagagctaaagttatgctacgactaatcat
ctggatatcctttgtccatctttttgttatactgtggaatgttaatggtcaaatcatatt
acacaaatatccatgctagtttctagaaagattgattatttttctgtaaccatgaactcc
gtattaacttccatgtaaacagGTGAAACTGAACTTACATCTTTTGGAGGAAATAGACGA
                       V   K   L   N   L   H   L   L   E   E   I   D   D

TGACATTGATTTTTGCTGCAAGCTCGCAAAAGAAGAATCAGTAATCTTATGCCCAGgtag
 D   I   D   F   C   C   K   L   A   K   E   E   S   V   I   L   C   P

gaatccattgttgattttttgactgtatatgaagttcttatcaatttccgagatgactata
catataaatgattaccatattatggtcagaaattgtataacagtgttagaatattctgtg
aagactttttttaacacaatattctgtgaagactagatatcatgtacttctccttgttttc
ttgacctgatgtccttcgtcacatgttgtgctcctcacaaaaaaatagcaagcacatgtt     3600
tcaaataattgttaataatataatttagcctttaatttatatggttctattttgagatat
ttttgtagtccaacttatatatttgtgactattctcaaaaacaaaacttatatatgtgtg
cctctcaaatgtagGGAGTGTTCTTGGAATGGCAAACTGGGTCCGCATTACTTTTGCTTG
              G   S   V   L   G   M   A   N   W   V   R   I   T   F   A   C

TGTTCCATCTTCTCTTCAAGATGGTCTCGGAAGGATCAAATCATTCTGTCAAAGGAACAA
 V   P   S   S   L   Q   D   G   L   G   R   I   K   S   F   C   Q   R   N   K

GAAGAGAAATTCGAGCGATGATTGCTAGTTGTATATCTGACTGAAGCTGTAAATCATTCC
 K   R   N   S   S   D   D   C   *
CAGTATCCCCATCTATATCTTTCAATAAAATGGAACTTTTAGTTCTCTATGAATAGAAGT

CAACATCTCCTTGAATATGTTCTGGTTGTTGTGGCCTGGACGAAACATAGTGAATGTTAT

GTTAGTGAAGTTAcattggcgtcgaagatctttgaagtttttttttttttttggggggggg

gggggggggggtgctttgatattactcttaagtacacgttctctcaagttatgtcaaagca
ctttgtaaacaattgtagatttggtatcatgatatggattaaactagtcagatacttggt     4200
aagcacaaaccctacctatgttaggctcactaaggtggcgtttggttcgagagagaggaa
ggatcagttgatgatatccccaatcatcgaagtaaatcatgtgttgttgctaccacttttt
ctacaatcctagtagctgcatgcgttgagctactgatcaacaccactgcacaaccatatt
ctctgtgcaaaatcggcacccaaagattacatctcacagctgaagcaaccaccaaatttg
aagagaggaaccctcacaaagacctttgagtgccccccacaatgcatggttaggccgccg
tcgcaggccggagtggtcaccatgcggaccaacaccaactccaacggggggagcacgtcac
cgattactgaaattccccaaacaattcttaatttgtgaacaaatttaaaaacaggaaca
atttttgaatttgtgaacaaattttttaaacgggtattcctgaacattttttcaaaattgt
gatcaaaattttaaaacgacttctttctcaaatttgagcaatatttaaaattataaaaaa
gttcaacaattttgaacttttttaaaaattagcgagaacattttgaaattctaaatatttt     4800
cgaatttggaacattttttctatttctgaacaaaaattgaaaatacgaacgtaatttgga
ataaattttggaaaatgcgattttttgaaatttctgaacatattttgaaaaacaaaaaaa
ctttaaaaggtaaaataaaaataaaataaaaatagaaacataaaaataagcaaaaaaata
```

FIG. 10D

```
aaagaaatccgagaaaagccaactgggaatagcacatggaaaaacccagccgtccgccgc
actgtgtaaagctataagtgagccggcccaagcctcgtcgtctcatcataccctgtgcga
aaccccgacaattcgttgcactatgcggcgaataggcttttccaggagctcctgtcttcc
ggttatgggtcatttgcacacccctcctccacttgggccaggctattatactttttttcc
ttctttcgacctcacgttactacgccagtttagttttggaagcgaccaaccggttttgt
gaaggttctagaaactcaaccattttttgggaagcttctagaagcctatgaatgtttcttt
tggacatgtattatttgtgtttttcttttcaaattgcacaatcttttttcaaattcat      5400
gatttttgtgaaacttgtgatttttgaatccgtgattttttttcctaaatccgtgtttt
gaaaaaactgtggacttttccgaaattaatgaacatttgtttgcaagatcgatgatcct
tttcaaatgagcgatttttttctaaaatatccacatattttcatattcataagctttcc
ttttaatcgtgaactatcttagcatttggtgaactttattaattttctttataaaatga
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aaccattgactcgctgaacagggcagggctttcatatgattgggtggtctaataccagcg
cccctgactactaaacgaaggaattgcaaattttaccaaccactactatggtaaaaaatg
aatatcacgataaaaaaggggaaaaaaaactataccctgaaaatccctctgtttctaaat
atttgttgttggggagaactaatctgaaagaactaatctagttctccgcaataacaaata
ttatgattcggggggagtataactattacacgatcaaccaaagaatgtcctccaagaaaa      6000
acccaaagaaagtgctagagtttttgttttcaaggaccgaaagatagagatagcattctga
attaggtccatcttttttcccaaggattgaaagaaagagatagaattctgaattaggtgcg
gagatatcatttctggattaggtacaattgttttgccggcacagccaaaccccgcagtgg
agccggaattggaattgagtgggtggagtcgagaagcatggttcatgcgttctcaaagag
tgtagccagtagtgtgtgctccttggtgctggagctgcatatacaagtacataaaacaaa
gacgatcagctggcagcgtgcctgcatgcgtgcttcttgctgccgccccggaagccccgg
ttgatgtgcgcaggcgagtggcgacgggaccgacggctataaagcacggccaagcaccgc
cgccgttctcaatccatccatcccttagctgatttgATTGACTAGCTAGTTCATTCCCTG


CCACACTGCTAGTACTCCTCCTCGTTTCCTCGTGGCAATGGTACACCAGAGCAACGGCCA
                                    M  V  H  Q  S  N  G  H   NAAT-A


CGGCGAGGCCGCCGCCGCCGCCGCCAACGGCAAGAGCAACGGGCACGCCGCCGCCGCGAA      6600
  G  E  A  A  A  A  A  A  N  G  K  S  N  G  H  A  A  A  A  N


CGGCAAGAGCAACGGGCACGCGGCGGCGGCGGCGGTGGAGTGGAATTTCGCCCGGGGGCAA
  G  K  S  N  G  H  A  A  A  A  A  V  E  W  N  F  A  R  G  K


GGACGGCATCCTGGCGACGACGGGGGGCGAAGAACAGCATCCGGGCGATACGGTACAAGAT
  D  G  I  L  A  T  T  G  A  K  N  S  I  R  A  I  R  Y  K  I


CAGCGCGAGCGTGGAGGAGAGCGGGCCGCGGCCCGTGCTGCCGCTGGCCCACGGTGACCC
  S  A  S  V  E  E  S  G  P  R  P  V  L  P  L  A  H  G  D  P


GTCCGTGTTCCCGGCCTTCCGCACGGCCGTCGAGGCCGAGGACGCCGTCGCCGCCGCGCT
  S  V  F  P  A  F  R  T  A  V  E  A  E  D  A  V  A  A  A  L


GCGCACCGGCCAGTTCAACTGCTACGCCGCCGGNNTCGGCCTCCCCGCCGCACGAAGgta
  R  T  G  Q  F  N  C  Y  A  A  G  V  G  L  P  A  A  R  S


acatttacagcttcaccgtaatgtatgcgtgagcatgcatgcgccggtttacttacgtgc
ccgccgctgttcttccccggtgcgttcaaaattttaaccttctataagtaccttataaaa
acaaacagCGCCGTAGCAGAGCACTTGTCACAGGGCGTGCCCTACAAGCTATCGGCCGAC
        A  V  A  E  H  L  S  Q  G  V  P  Y  K  L  S  A  D
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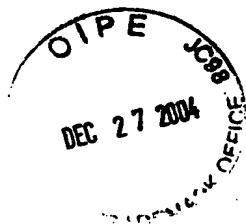
FIG. 10E

```
GACGTCTTCCTCACCGCCGGCGGAACTCAGGCGATCGAAGTCATAATCCCGGTGCTGGCC
 D   V   F   L   T   A   G   G   T   Q   A   I   E   V   I   I   P   V   L   A

CAGACTGCCGGCGCCAACATACTGCTTCCCCGGCCAGGCTATCCAAATTACGAGGCGCGA 7200
 Q   T   A   G   A   N   I   L   L   P   R   P   G   Y   P   N   Y   E   A   R

GCGGCATTCAACAAGCTGGAGGTCCGGCACTTCGACCTCATCCCCGACAAGGGGTGGGAG
 A   A   F   N   K   L   E   V   R   H   F   D   L   I   P   D   K   G   W   E

ATCGACATCGACTCGCTGGAATCCATCGCCGACAAGAACACCACCGCGATGGTCATCATA
 I   D   I   D   S   L   E   S   I   A   D   K   N   T   T   A   M   V   I   I

AACCCAAACAATCCGTGCGGCAGCGTTTACTCCTACGACCATCTGGCCAAGgttttgcat
 N   P   N   N   P   C   G   S   V   Y   S   Y   D   H   L   A   K

ccatgcatcctctgcctcgttgatcgaccggtctgtttgaacatagtatatggattgcgt
ttgctaatcgtgtgctgatgatgctgtttggttatcagGTCGCGGAGGTGGCAAGGAAGC
                                        V   A   E   V   A   R   K

TCGGAATATTGGTGATCGCTGACGAGGTTTACGGCAAACTGGTTCTGGGCAGCGCCCCGT
 L   G   I   L   V   I   A   D   E   V   Y   G   K   L   V   L   G   S   A   P

TTATCCCGATGGGCGTCTTTGGGCACATTGCCCCGGTCTTGTCCATTGGATCTCTGTCCA
 F   I   P   M   G   V   F   G   H   I   A   P   V   L   S   I   G   S   L   S

AGTCGTGGATAGTGCCTGGATGGCGACTTGGATGGGTGGCGGTGTACGACCCCACAAAGA
 K   S   W   I   V   P   G   W   R   L   G   W   V   A   V   Y   D   P   T   K

TTTTAGAGAAAACTAAGgtagctttagctccctatcattcttctcatatgctactgtggg
 I   L   E   K   T   K

gattagtattttttgctaaatttgtactgcctttgtttattcagATCTCTACGTCTATTAC 7800
                                             I   S   T   S   I   T

GAATTACCTTAATGTCTCAACGGACCCAGCAACCTTCGTTCAGgttagtctttggttctt
 N   Y   L   N   V   S   T   D   P   A   T   F   V   Q
gccctattttgctcatgtccctgtgttgcatgtcaaatgaccggcttcaagttagtatat
agagttttttgttaagtgtgaatgtcgaagtccaacatgatggaagaaagatacatctatt
tttagtcattccccttttgtttgtttgattccataaaataaataaacacaaagccagaacc
aactattgaatagaactattttttcttagaaaatatacattgtattttgagcatgccatat
tcttttcgatcaagtatgcaatatattaaaacttgcattgtactacgagtataccatgtt
gttaagaatttctttacctacaacaccttgtctcgcatcttcatattttgatatccttga
cattattgttctcttatgattcacacaacttaattatggattttttgtgctatcaaattgt
ttagGAAGCTCTTCCTAAAATTCTTGAGAACACAAAAGCAGATTTCTTTAAGAGGATTAT
     E   A   L   P   K   I   L   E   N   T   K   A   D   F   F   K   R   I   I

TGGTCTACTAAAGGAATCATCAGAGATATGTTATAGGGAAATAAAGGAAAACAAATATAT 8400
 G   L   L   K   E   S   S   E   I   C   Y   R   E   I   K   E   N   K   Y   I

TACGTGTCCTCACAAGCCAGAAGGATCGATGTTTGTAATGgtaagctaagcatagactta
 T   C   P   H   K   P   E   G   S   M   F   V   M
```
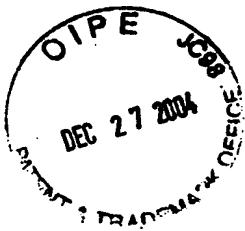
FIG. 10F

```
cttttttaaggttaatctgggatctcagtgcatccaacaaacaatcaaatcaaaatataat
tatgttttgctatggatcttttttgaagatgcatgcatttgaagaataatgaagagagttg
aaattattttaggactaatcttcctgatatcatttgtccattttttttgttattactgtaa
attggtaacactcaaatcatattacaaaaagtttcctcccattttttagtaagattgactt
cctttctataaccatgtattaacttccatgtaaacagGTCAAACTAAACTTACATCTTTT
                                       V  K  L  N  L  H  L  L


GGAGGAGATCCATGACGACATAAATTTTTGCTGCAAGCTCGCAAAGGAAGAATCTGTAAT
 E   E   I   H  D  D  I  N  F  C  C  K  L  A  K  E  E  S  V  I


TTTATGTCCAGgtaggaatgtatatggccatttttaaaggaaaactatatggaataataat
 L  C  P


atcttcttgttatactaaacaatacttcctccatcctaaaataaatgtcttacacttagc
acaattttatactagatctagtacaaagttgaaacagttattttgggacagagggagtag  9000
tatatattgtgtgagaacataaggttatgtttgactgatatatgcttcttaaatgtgaaa
catgttctcttatgttttttgattgtatacgaagttcttatcagtttccgagatgactac
acataaatgattaccatatcattgtcagaaatgtattaccacattagaatattctttct
ttttatgcaaagactagcatggcatgtacttttccttgtacctatgtgtcttttttttc
tcgttacatgtttgtgcttctcacaaaaataataataccaagcacatgttccaaatgatt
attaataattttgaggtgttttttcaaccaacttatatactttcatagttctaaaaaaacc
gtatatatggttaactctaacaaaaacttatatatgttttctctctaatacagGGAGTGT
                                                       G  S  V


TCTTGGAATGGAAAATTGGGTCCGTATTACTTTTGCCTGCGTTCCATCTTCTCTTCAAGA
 L  G  M  E  N  W  V  R  I  T  F  A  C  V  P  S  S  L  Q  D


TGGACTCGAAAGGGTCAAATCATTCTGTCAAAGGAACAAGAAGAAGAATTCTATAAATGG
 G  L  E  R  V  K  S  F  C  Q  R  N  K  K  K  N  S  I  N  G


TTGTTAGTTGTACACACCCCTAGTTGTACATCTGACTGAAGCTGTAAATCATTTCTAGTT  9600
 C  *
ATCCCCATTTATATATTTCAATAAAACATATTGTAATGGTTCTGTTGTAGCTGTCCAAGT


CATGTACTCTACTTTTTGATGTATTTGGCCTCATTGCCTTGCATCAGTTTCAATAAAAAT


GGTTGTGTACACaatgatgatgtagaggcgaggtgttttgaccaccttttcaacaaaaat


ctatatctttcaacaaatgaaaccttgagttccctttgagtagaagtcaacatactcctt
gaatatgctatggtttccatggtctggatgaaacatgatgaatagaagtgaagttatatc
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acattctctgaagtaattgtcagtttggtacttgaagggacctatattttcctattggg
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attaaactaggtgaatattttttccaataaagggtgctttattgactcacaatgtacca
tcaagggatacaatcataatgagtacacaatcgacatctacataatcaggttgcatacgg  10200
ccaacacacacacgcacacacacattcacacacacaaatcatgctgacgaagagcgaa
gtcatacaagatcaaaactatgcctaggcggaggaagaatagaaaaacatgaagaaatga
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ctgcgagaaaagttctataaaactggcgccttcgagaaggaaacgacgtgcaagagttgc
catcatcggatccaaccactaaggtcatatcctgggttttcatcctgaagatcaaatccg
agcaaactccgagtaatgtctttattagggtaacgattcaaaaaatgccacaatcatgag
```

FIG. 10G

```
ttatgaccaattagaccagacctaggatttttatccaaagctcgagacgggtactctaga
agtaccatccaattgaagtcatcccacttgcctcaatacaaatagttgcatagatgcacg
gtccatatggcgagtaatggacatgagcgcgcatgtgtaggttaacgtgacgtgacaaga
gcctgtcgccaccactcgacgaagtgtttgatggggaggaagaagtatggctccaccaac  10800
atcccaagtttgaaacattctagagccccttaccatactcacaaagcgacaattgatgac
tatctgtatcagacgacaaatccatgtccgtcactcgctctatcttggtcattgacatac
tacctggcaaaggcggattcaagccccagacagcctgggcggccgc
```